

Connecticut Department of Environmental Protection



citizens' bulletin

Volume 6

Number 1

September 1978

\$2/yr.



Inside Hikes, 2; Hunting & Fishing Day, 3; Put Woods to Work, 4; Deer, Doing Well, 6; Safe Shooting, 9; Nature Notes, 10; CAM: On the Sound, 12; 208: Alternatives to Sewers Conference, 14; TV Workshops, 15; IRS & Land Trusts, 16; Wetlands Workshops, CACIWC Meeting, 17; Last of '78 Legislation, 18; Water Resources, 19; Trailside Botanizing, 20.

...TOWERING...

high points for hikers

William Miller, DEP's Chief of Parks and Recreation, and Richard Clifford, Parks Planner, offer their suggestions for fall hikes in Connecticut State Parks and Forests. To give hikers a goal, eleven of the suggestions include towers or other observation points where you should be able to see some "great views of the fall foliage."

All of these parks, says Clifford, are "suitable for family outings." Most offer a morning or afternoon or a full day of hiking. Some also offer more challenging trails. Most include picnic facilities. Trail maps are available from DEP's Parks & Recreation Unit in Hartford and at some parks.

Northwestern Connecticut

MOUNT RIGA STATE PARK - SALISBURY

Monument at top of Bear Mountain, Connecticut's highest peak (but not point) offers good Berkshire views. Appalachian Trail runs through park.

HAYSTACK MOUNTAIN STATE PARK - NORFOLK

Tower at the peak of the mountain offers good views of the Massachusetts Berkshires and the Litchfield Hills.

MOHAWK MOUNTAIN STATE PARK - CORNWALL

Sweeping view from tower at peak; hiking on segments of Appalachian and Mattatuck Trails.

MOUNT TOM STATE PARK - LITCHFIELD

Mountain lookout tower offers 360 degree view.

North Central Connecticut

TALCOTT MOUNTAIN STATE PARK - AVON

"Don't be dismayed," says Clifford, "at the first quarter of the 1 1/4 mile hike to the park's 165-foot Heublein Tower; it's the steepest." Tower itself is currently closed for repairs.

PENWOOD STATE PARK - BLOOMFIELD

Mountaintop scenic lookout offers "great views of the Farmington River Valley." There's hiking on Tobacco Valley and Metacomet Trails, an interpretive nature trail.

Southwestern Connecticut

SOUTHFORD FALLS STATE PARK - OXFORD

Scenic hiking along Eight Mile River. Tower offers view to the West.

South Central Connecticut

SLEEPING GIANT STATE PARK - HAMDEN

Tower at "Giant's hip" offers nice views of New Haven harbor, Long Island Sound. Park is designated National Scenic Trail, includes 25 miles of trails, self-guiding nature trail.

HURD STATE PARK - EAST HAMPTON

Nice views of the Connecticut River from its East Bank, especially from the park's "Split Rock."

GILLETTE CASTLE STATE PARK - EAST HADDAM

Nice Connecticut River Valley vista from castle patio is close to parking lot for "non-hikers." Good hiking along beds of William Gillette's three-mile, scale-model railroad.

Eastern Connecticut

BLUFF POINT COASTAL RESERVE - GROTON

Attractive undeveloped area offers excellent shoreline hiking; sea shore, tidal marsh, and forest wildlife; nice views of Long Island Sound.

PACHAUG STATE FOREST - VOLUNTOWN

Climb to summit of Mount Misery or work east to Lookout Tower on Escoheag Hill in Rhode Island. (Off season camping)

DEP Citizens' Bulletin

Published eleven times a year by the Department of Environmental Protection. Yearly subscription \$2.00. 2nd class postage paid at Hartford, Connecticut. Funds are also provided through a federal grant from the Office of Coastal Zone Management under the Coastal Zone Management Act of 1972. Please forward any address change immediately.

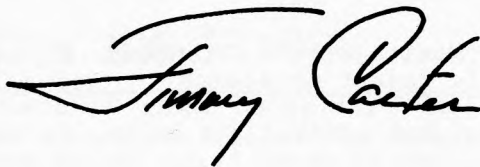
Bulletin material may be reprinted without permission provided credit is given, unless otherwise noted. Address all communications to the Editor, DEP Citizens' Bulletin, Department of Environmental Protection, Room 112, State Office Building, Hartford, Connecticut 06115.

For more than seven decades the sportsmen of this nation have been the leaders in a constant effort to conserve our natural resources, wildlife and wild places. They have traditionally been the first to stand up for the cause of clean air and water and a better environment for both man and wildlife.

Through their organizations and through individual action, hunters and fishermen have formed the foundation for practical conservation work on the local level. Their efforts have preserved thousands of acres of wetlands and forests and have resulted in the improvement of countless lakes, streams and waterways.

To finance their farsighted conservation programs and activities, hunters and fishermen asked that license fees be established and that special taxes be levied on hunting and fishing equipment to support land acquisitions, research and habitat management for fish and wildlife. To date, sportsmen have provided some \$5 billion for conservation.

.....In recognition of this important public service, it is most fitting for us all to applaud the nation's sportsmen by designating a special National Hunting and Fishing Day on Saturday, September 23, 1978. On this day, America's sportsmen, through their clubs and organizations and through individual effort, will organize activities to promote further the conservation effort and to enlist public support for conservation activities on local, state and national levels.



NATIONAL HUNTING & FISHING

DAY

23

S E P T E M B E R

The Seventh Annual National Hunting and Fishing Day will be observed on Saturday, September 23. DEP will participate in observances planned by two fish and game clubs in the State.

These open house programs will offer an assortment of educational and commercial exhibits as well as opportunities for the public to try activities like trap and skeet shooting. Activities planned include hunting dog trials; archery, casting, and muzzle loader demonstrations; rifle and pistol shooting. Both clubs' programs will offer a selection of wildlife and sports films. Among the expected exhibits will be fly-tying, decoys, taxidermy, and hunting and fishing equipment.

The Bristol Fish and Game Association will offer an all-day program, starting at 10 a.m., on Saturday, September 23, at the club's grounds on Willis Street in Wolcott.

The Putnam Fish and Game Club has planned two days of programs, on Saturday and Sunday, September 23 and 24, at its grounds in South Woodstock (Rt. 169 off Rt. 171).

OPEN HOUSE AT REMINGTON GUN CLUB
By Lynn Giroux

The Remington Gun Club, Lordship Point, Stratford, will also host a National Hunting and Fishing Day Open House on Saturday, September 23, in a continuing effort to increase public awareness of the sportsman's contributions to conserving our wildlife and natural resources.

Local clubs and conservation organizations, in cooperation with Remington, will feature a range of recreational, competitive, and educational activities related to outdoor sports. Volunteer experts will demonstrate various skills to interested participants.

Put your woods to work...

The State's foresters and wildlife biologists agree that the most important factor in increasing Connecticut's deer herd over the last several years has been "habitat improvement." In simpler terms, wood stoves and sawmills have proved great boons to wildlife.

"The increased interest in timber cutting and the increase in home firewood use have, in certain areas, really boosted the numbers of wildlife," says DEP Area Manager Richard Harris.

Timber cutting, Harris says, benefits not only deer but also rabbits and raccoons and ruffed grouse . . . just about every bird and animal species found in wooded areas. Old, unmanaged timber stands offer primarily treetop and head-high or higher foliage: "Not much good to wildlife unless," Harris says with a chuckle, "they're giraffes."

If you take out some mature and low quality trees and let in some sun you soon get "brush" -- a growth of ground level to knee-high bushes and saplings and other plant life that provides tons of vegetation per acre. These are the layers the animals can eat, he says. Especially browsers like deer. These layers also provide animals "cover."

Forest management is nothing new, Harris points out. For centuries the American Indians burned off vast acres on the East and West coasts. This primitive form of forest management meant more food plants, berries, roots, and medicinal leaves, as well as more wildlife.

...wood stoves help wildlife...

At mid-nineteenth century, Connecticut's original forests had been cleared for farming and the State was less than one-third forest. Beginning in the 1840's, the agricultural population went West to better farmlands, and farming declined as the State became industrialized. The forests returned. Today about sixty percent of the total area of Connecticut -- 1,860,800 acres -- has reverted to forest land. Over eighty percent of this land belongs to private individual or corporate owners. The largest part of it is held for residential use or investment in parcels of under 100 acres. But all these trees are not being used as well as they could be.

For every 6,000 tiny saplings, in 100 to 150 years you end up with about 100 mature trees, says Harris. "We're advocating that man step in and utilize more of those other 5,900."

Connecticut's statewide commercial timber harvest exceeds 60 million board feet annually. The State has about 97 logging companies and 115 sawmills. Over 600 persons are employed in primary timber processing. Over 600 additional companies are involved as "secondary processors" of lumber products with an annual payroll of over \$20 million.

But, says Harris, of the State's commercial forestry, "speaking conservatively, we could easily double the payroll. If we were cutting all we should, forestry would be a major industry in Connecticut, economically comparable to some of our larger commercial corporations."

Most private landowners are doing little forest management. "Too many people are just sitting on their land watching it decay and waste." A major Forestry Unit goal, Harris says, is to get private owners actively managing their woodlands.

"Private owners should be land stewards. Utilize a tree. We don't live forever, and neither do trees. It's selfish to save a tree just to look at now, only to have it die and go to pieces in your son's lifetime.

"Trees should provide jobs and help the economy as well as supplying the many more obvious benefits."

The State tries to offer a good example. A little less than 200,000 acres are owned by the Department of Environmental Protection. In 1977, timber harvesting on these lands yielded revenue values of \$178,000 -- for 10,500 cords of firewood, 2,171,706 board feet of saw logs, and 17,300 linear feet of cabin poles. "We could sell more if our foresters could spend all their time on this program," Harris says.

Last year the Forestry Unit improved 180 acres of State-owned timber stand -- thinning, pruning, removing deformed trees, releasing crop trees. (This last is the process by which the best trees are selected and surrounding trees are killed to force the crop trees' faster growth. "It's synonymous to thinning carrots.") The Forestry Unit also plants 50,000 trees each year on about 125 acres.



Good forest management, Harris says, aims at "the optimum use of the land for timber production, wildlife habitat, watershed protection, recreation, and other compatible uses." All of the State's programs - including timber sales - must fit into an overall forest management plan, reviewed by wildlife, fisheries and recreation units.

The State's cordwood program sold less than 300 cords of wood in 1973, compared to 10,500 cords last year. This program is now so popular that applicants join a waiting list of 700 to 800 and can expect to wait weeks or months for their permits. These permits allow applicants a specific period to take marked wood from an assigned plot. Minimum haul is two cords. Some harvesters take up to 40 to 50 cords. The cordwood costs \$4 per cord, for either standing trees or tops and logging slash, compared to \$40 to \$60 a cord for cut cordwood on the commercial market.

... timber can pay the taxes ...

What should a forest landowner do? DEP's foresters will provide technical services in forest management for up to a total of two days. For obviously larger projects, they can refer a landowner to a list of private consulting foresters. (Several federal programs offer financial incentives for such forest improvement.)

Since the State's fourteen foresters manage State Forests, provide planning services for private landowners, work on environmental review teams, and are involved in forest fire control as well as marking firewood on State lands, an applicant for technical services can expect to wait several months for a consultation.

What's the effort worth? Besides more wildlife and birds? "While you're not sitting on a goldmine," Harris says, "timber management should at least pay the taxes on the land." It produces at least a little "interest," he says, while keeping land holdings from actually depreciating in value.

Timber prices range from \$30 to \$45 per thousand board feet for softwoods; from \$50 for hardwoods up to \$100 or more for high quality woods like black cherry or sugar maple. Small loggers will come in for as little as ten acres, "if timber volume per acre makes it economically feasible." Variables like accessibility will also enter into their calculations, Harris notes. You can cut every dozen years in

some cases, but the average is every twenty-five to thirty years. A landowner who holds, for example, 100 acres with 2,000 board feet per acre at \$50 per thousand board feet could make \$10,000 harvesting his timber.

Harris recommends that, just as the State does, landowners get at least three bids from interested loggers, insist on pre-marking by a qualified forester, and get detailed contracts.

Smaller landowners can cut or sell rights to cut firewood and can plant wildlife cover. A diversity of plantings provides a "kind of insurance" in case a stand of trees is attacked by insects or disease. Wildlife also thrives in this diversity.

Landowners, large or small, can consider aesthetic and recreational purposes, Harris suggests. There's no reason a private owner, contracting with a logger, can't arrange to log around a prized path or "mark off your favorite lady slippers." He recommends that you leave food trees and leave some big rotted trees to provide nesting holes for birds and squirrels and raccoons or perches for owls and hawks which like a tree with a view.

For more information or assistance, call one of DEP's foresters at the four Regional Headquarters.

Region I, Winsted; 379-0771

Region II, Middlebury; 758-1753

Region III, Marlborough; 295-9533

Region IV, Voluntown; 376-2513



John and Paula Farrington of South Woodstock took advantage of DEP's Forestry Unit's cordwood program. (DEP photo)

Deer do well under new management

Connecticut, in 1974, was the only remaining State in the continental United States that did not manage its deer herds. Connecticut's legislation considered deer not a resource but an "agricultural nuisance." Landowners could hunt deer of either sex twelve months of the year. For non-landowners who couldn't get a farmer's permission, there was no legal "big game" hunting in Connecticut except with bow and arrow.

The Deer Management Act of 1974 changed things, giving DEP's Wildlife Unit the responsibility for managing a "guestimated" herd of ten to twelve thousand and regulating deer hunting in the State.

Today, after four years of professional management, three "deer counts," and a variety of research efforts, the State is on its way toward a system of regional deer management areas. Deer are healthy, more numerous, and bigger. And far more residents now have a chance at legal "big game" hunting.

At last January's count, the third since January 1974, Connecticut's deer herd had risen to 22,500 (from 19,100 and 19,700 in January 1974 and January 1975 respectively). With an intervening spring fawn drop, the herd could now be up to nearly 30,000, according to Paul Herig, Deer Program Biologist.

To count the deer, Herig randomly selected eighty half mile square blocks for a total of 40 square miles. Blocks were checked prior to sampling and discarded "if they were in downtown areas or in the middle of a lake."

Counts took place during January when hunting seasons were over and the deer were probably at their annual numerical lows. From a small hired helicopter, Herig counted against a background of snow.

Each of the counts took fifty to seventy hours of flying back and forth across the selected sample areas at about treetop level, at the slowest possible speeds. "They call flying this low," Herig says, "the bottom of the J-curve. If there's a mechanical failure, you sort of sink like a rock."

Any deer that might have crossed the count area twice were discounted, so the resulting figures, Herig says, are, if anything, overly conservative.

"There's no one right number of deer that the State can support," Herig says. "To come up with such a number you would

almost have to assess the State acre by acre for edible plant species, cover, and other factors. In some places ten deer per square mile is too many. Other areas might handle thirty per square mile."

You can have too many deer. In certain parts of Vermont, huge deer populations per square mile have resulted in smaller size and more incidences of deer starvation. Dead deer searches in 1978 revealed losses as high as 113 deer per square mile.

The ultimate goal of the Deer Project, Herig says, will be to "delineate in detail biological management zones in the State. Different deer groups in different regions require different management."

The method is to carefully analyze and compare factors including numbers, ages, sizes, reproduction rates, and general deer health.

The project operates on the theory that the easiest, most economical, accurate, and timely way to determine how the deer is doing is to, as Herig puts it, "let him tell us the situation he's living in -- how well he's making his daily living." If deer weights are low, he says, you know the deer may have increased beyond what a habitat can support. Pockets of disease or parasites can also indicate high deer densities.

To get the huge mass of data that will ultimately reveal "how the deer are doing," for three years the Deer Project has been examining the deer taken by hunters. The project has also been collecting data on road kills, with the help of the State's law enforcement agencies, as well as on other deer kills discovered by conservation officers.

"Ask the deer how he's doing."

Basic data being fed into a computer includes date, place, and cause of death, sex and approximate size. During deer hunting season, deer check station personnel weigh and measure each deer brought in. Antler beams are measured and points counted. Jaws are removed, or front teeth extracted, with the hunter's consent, to determine the deer's age. (Like humans, fawns cut and later shed a set of milk teeth. Older deer show patterns of tooth wear from which you can establish their





White-tail buck (Leonard Lee Rue III photo)

ages. A deer of six to eight years old, which Herig says is very old for a deer, may have teeth worn down to an indentation.) During the spring, conservation officers also examine any does that are killed for the presence of fetal fawns.

Food, the ten to twelve pounds of vegetation a deer eats each day, is a key to how well deer do.

First of all, nutrition affects size. So the fact that male yearlings taken in the 1977 hunting season showed a five pound increase in average field dressed weight over those taken in 1976 was a good sign for the State's deer.

Though sexually mature by one-and-one-half years old, deer don't reach their full size until four-and-one-half. The largest deer ever recorded, according to the September 1978 *Outdoor Life*, was a 511 pounder taken in Minnesota. Runners up, taken in Wisconsin, weighed 491 and 481 pounds.

The largest specimen Herig has seen in Connecticut was "about the size of a small heifer." It weighed 292 pounds, was 45 inches high at the rump, 66 inches long, nose to rump, and 49 inches around the chest. Eight percent of the deer taken in Connecticut in 1976 weighed over 200 pounds.

In general, deer get smaller as you go from north to south down the East Coast. Few of Georgia's reported white-tailed deer, for example, even approach the average weight of those taken in Connecticut.

Nutrition affects numbers as well as size. Good nutrition is vital to fawn production. A well nourished doe, after her first fawn, should produce twins, Herig says. Triplets are not unusual, he adds, and there are even quintuplets on record. It's a sign of poor nutrition in an area if mature does are producing only single fawns.

After the second year, it's also nutrition -- not age -- that's key to development, by bucks, of impressive sets of antlers. So antler point counts and beam diameters are another measure of a herd's condition. During Connecticut's 1976 hunting season, all bucks taken, including fawns, averaged five antler points.

The 1977 Connecticut Deer Project Summary includes in the data it offers the facts that the 1977 deer hunting season produced 79,000 man-days of recreation and \$109,000 in revenue from firearms and archery permits. Successful hunters took home \$75,000 worth of venison (calculated at prime ground round prices), and hunting stimulated an estimated \$1.2 million in hunting-related expenditures.

"...you put the
critter first."

This year Connecticut will issue 4,362 shotgun and 2,177 muzzle loader permits for State owned lands, figures carefully and conservatively calculated to consider the size of the herd and the average hunter success rate. Overall, on the average, about one in fourteen legal Connecticut hunters takes home a deer.

When the data is all in for biological management zones, if the deer are doing well, hunting could increase. The number one goal, Herig says, is to maintain a strong deer herd, but uncontrolled herd growth doesn't necessarily serve this purpose. "As a professional biologist," he says, "you put the critter first. But we don't want to be up to here in deer."

Herig stresses the economic value of Connecticut's herd and disapproves of the "nice cuddly critter" approach. "Deer," he says, "are a crop. You wouldn't plant corn just to see it grow and then let it die and rot in the field."

The three deer counts have shown that hunting has not caused any decline in the



herd. Herig hopes that legal hunting will result in some trade-offs -- that some of the potential road kills, illegal kills, and dog kills will end up in hunters' freezers instead.

During the 1975-1977 research period, more deer were killed by automobiles each year than by legal hunters -- 940 to 909 in 1977. It's estimated that roaming dogs kill another 400 to 500 deer each year. Herig notes that reported road kills dropped several years ago at the same time beef prices soared. Many people, he says, probably still don't know that motorists involved in an accident with a deer can claim the carcass after it's inspected by police or conservation officers.

Hope is that some
potential road and
dog deer kills will
instead go into
hunters' freezers.

Ever since the coming of Connecticut's earliest settlers the fortunes of the deer have been up and down. Clearing the land increased available browse, and deer increased. Rising demands for hides and venison caused radical decreases in the herds, aggravated by periodic severe winters.

At mid-nineteenth century, white-tailed deer were almost gone from the State. A law was passed in 1893 that gave wild deer complete protection for ten years, and in 1896 the first biennial report of the Commissioners of Fisheries and Game proudly reported, "There are at least one dozen wild deer within the boundaries of the State."

With a little encouragement, and changes in land use, the prolific deer began its comeback, and by 1904 landowners were complaining of crop damage. A law passed in 1907 allowed landowners or lessees free permits to shoot deer of either sex on land used for agricultural purposes at any time of the year. This law - with modifications to allow hunting by spouses, employees, offspring, and licensed hunters under paid permits, as well as allowing use of the long bow - remained in force through 1974. The 1974 State Legislature deserves a lot of credit, Herig says, for changing the deer law in the face of this long and strong agricultural tradition.

MORE DEER DATA*

There are an estimated fifteen million white-tailed deer -- seventeen different subspecies -- in the continental United States.

Deer can run thirty to thirty-five miles per hour, but only for short distances. Leaps of twenty-eight to thirty feet have been recorded.

Deer have good senses of smell, sight, and hearing. But they're color blind.

Deer have no front teeth on their upper jaws.

The average doe is 34 inches high at the shoulder.

A deer spends most of its life within an area of about one square mile.

In winter deer "yard"; that is they group together and tramp out a network of trails to food areas.

Deer resist the impulse to migrate. In winter, particularly if there's deep snow, they will often starve "in yard" rather than moving a few miles to abundant food.

Yearling offspring usually stay with a doe and her most recent crop of fawns, continuing their "learning process." Deer family groups operate on an oldest-to-youngest "pecking order."

Nobody is quite sure, Deer Program Biologist Paul Herig says, of the function of antlers. They may be for combat and/or part of the buck's courting display, like the flashy colors on some male birds. Antlers also may act as a sort of radiator -- the "velvet" on them in the summer contains a network of fine blood vessels which may help to cool the deer during hot weather.

Each year a buck develops new antlers and each year, after the fall mating season, they fall off. You seldom find discarded antlers, however, because rodents quickly chew them up for the calcium content.

*Paul Herig, Deer Program Biologist; Leonard Lee Rue III, The World of White-Tailed Deer; Walter P. Taylor, The Deer of North America.

SAFE SHOOTING!

By Frank Glista, Boating & Hunting
Safety Representative

Every one of the eight non-fatal hunting accidents that occurred in Connecticut in 1977 could have been prevented if every hunter practiced the fundamentals of gun handling taught by the State's nearly 375 volunteer instructors. These shooting fundamentals serve a dual purpose; first, they keep hunting a safe sport, and second they make for better marksmanship.

* The cardinal rule of gun safety is "Treat every gun with the respect due a loaded gun." Whenever you pick up a gun, whether indoors or outdoors, point it in a safe direction and examine the gun carefully to make sure whether or not it is loaded.

* Pointing a loaded or unloaded gun at another person is an unpardonable sin in shooting ethics and will brand you as a thoughtless novice or a very careless shooter. Never indulge in "horse play" with firearms.

* Leaving a loaded gun unattended is extremely dangerous. Someone may pick it up thinking it is unloaded. If it is propped against a tree, car or fence it could fall or be knocked down by a frisky dog and discharge. If you are resting in the field or woods, always lay your gun down, preferably unloaded, with the muzzle pointing away from everyone.

* When climbing over fences or other obstructions, pass your gun to a companion or pass it through the fence and lay it on the ground. A stumble or fall with a loaded gun could prove disastrous.

* Never, never pull a gun, loaded or unloaded, towards you through a fence or from a boat or car.

* Watch your footing carefully. Should you stumble or fall, or if the gun muzzle touches the ground, always unload and look through the bore to be sure it is not clogged with dirt, snow, or any other substance.

* Keep your safety on until ready to shoot. Examine it frequently when traveling through brush or woods.

* Alertness makes for good marksmanship. Carry your gun at the "ready" position, hands on the fore end and grip, muzzle elevated at an angle about in line with your eye. This allows you to bring your gun up to your shoulder quickly and get your cheek down on the stock easily and permits the free swing that gets moving game.

* If you are hunting with companions it is best to walk abreast. Keep your companions in sight and your muzzle pointed away from them. Should circumstances require your group to walk single file, the lead man must keep his muzzle forward while those following should keep their guns pointed away from the other hunters.



White-tail buck bedded in high grass
(Leonard Lee Rue III photo)

* Always make sure of your target. Take a good look at the target and at what is behind the target before pulling the trigger. Never fire in the direction of a sudden sound -- it could be another hunter.

* During the deer season and when hunting in deep woods or dense cover, wear the fluorescent orange clothing required by state law.

* At the end of a hunt, always unload your gun. Take it down or open the action before putting it aside in camp or into your auto.

Observe these simple principles of gun safety and set a good example for your fellow hunters and help make hunting even safer than it already is.

nature notes

by penni sharp

Apples

The shorter days and autumn hues of early fall indicate that the time of harvest is at hand. September and October are good months in which to pick, preserve and store fresh fruits and vegetables before the cold weather sets in.

One of Connecticut's most welcome and versatile crops is the apple (*Pyrus malus*), and a joy of the fall season is the abundance of crisp, fresh apples now available. Man has been harvesting apples since the beginning of recorded history, and today more than 7000 varieties of apples exist. Not a native plant, apples were introduced to the United States by the earliest settlers. However, the apple has come to be regarded as an American fruit as evidenced by such popular expressions as "American as apple pie" and "apple pie order."

Apples are high in nutritional value. They contain important vitamins and minerals and fruit sugars. They also contain a substance called "pectin" which aids in digestion and is extracted from apples and other fruits for use in jelly-making.

A fresh raw apple is about 85 percent water! To determine the approximate water content of an apple, the following investigation can be made.

Needed: a spring scale, an apple, a knife, a small plastic bag

Procedure: Place the apple in a plastic bag and weigh it. Record the weight. Cut the apple in pieces and leave it exposed to the air for several days to a week. Then place the pieces in the bag and weigh the cut up apple. Subtract the second weight from the first to determine approximately how much of the weight of the apple was due to its water content.

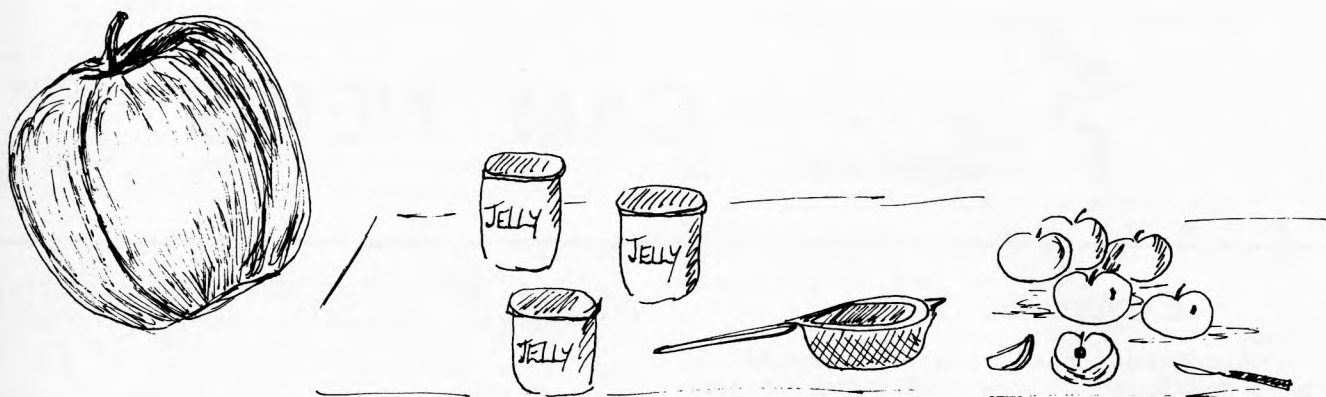
Apple pests

As with many orchard crops, apple trees are prey to several diseases and pests. "Apple scab" and "cedar rust" are diseases that are caused by fungus. Both diseases cause spots on the leaves and on poorly developed fruit. The cedar rust fungus requires both cedar (*juniperus*, sp.) and apple trees as hosts in order to complete its complex life cycle. Spores formed in clusters on the underside of apple leaves infect cedars and junipers that are close by. On the cedars orange fleshy galls are formed which produce resting spores. These are transported by the wind to apple trees. Structured spores are then formed on the surface of the apple leaf and on the fruit. Removal of cedar trees in the vicinity of apple orchards is an effective means of controlling this apple enemy.



Insect pests include various species of aphids which suck the juices from the leaves and the larvae of the codling moth which chew on apples and leaves. While pesticides have been the traditional means for controlling insect pests, environmental concerns have led some farmers to seek alternative methods of pest control. These include biological controls such as the release of lady bugs to control aphids, the use of netting or the application of oils to smother insect eggs on the trees.





Apple jelly

Although to many the best use of an apple is to eat it as is, delicious foods can be prepared from apples: jellies, cider, applesauce, cobbblers, pies and chutneys. Here is a recipe for making apple jelly.

Ingredients: About 4 lbs. ripe apples
7 1/2 cups sugar
1 bottle fruit pectin

Wash and cut the apples into small pieces, but do not peel or core. To 6 cups boiling water, add the apples and simmer 10 minutes. Crush with a masher and simmer 5 minutes longer. Line a large sieve with cheesecloth and drain. Place 5 cups of the juice and 7 1/2 cups of sugar in a large saucepan. Bring to a boil over high heat stirring constantly. At once, stir in the pectin. Bring to a full rolling boil and boil hard for 1 minute, stirring. Remove from heat, skim off the foam and pour into clean glass jelly jars. Seal with a layer of melted paraffin and allow to set undisturbed for several hours.

A pomander

Homemade jellies make excellent gifts. Another popular gift that can be made from apples is a pomander ball. These keep closets and drawers fresh smelling. To make a pomander ball, choose an apple that is small, firm and red. You will also need the following:

Whole cloves, powdered cinnamon, cotton cloth (such as a piece of old sheet), string or decorative ribbon and an ice pick or knitting needle.

Directions: With the pick or needle, poke holes around the apple taking care not to tear the skin. Push a clove into each hole, covering the entire apple. Place on a clean cloth and sprinkle liberally with cinnamon. Tie the cloth around the apple and shake off excess. Place the apple in something that will allow the fragrance to escape; an old nylon stocking serves this purpose well. Tie with ribbon and hang the ball in a closet.

Many apple growers in Connecticut are pleased to have visitors to their farms, and at some farms individuals can pick their own apples for a reasonable price.

For names of apple growers, request "Places to Pick Your Own Fruits and Vegetables in Connecticut" from the College of Agriculture and Natural Resources, U-35, University of Connecticut, Storrs, CT 06268.



Explore the Sound

Connecticut residents interested in Long Island Sound have a wide range of educational workshops, lecture series, and courses on marine biology and maritime history to choose from this fall. The programs, offered by various environmental, scientific, and historical organizations, examine subjects such as "The History and Heritage of American Whaling," "Marine Biology," "Seafood Cooking," and "Celestial Navigation," and reflect the growing public interest in Connecticut's coastal resources.

There are workshops aimed at aiding teachers of environmental subjects, courses for college credit and programs for pure enjoyment. Whether the program is a field trip to a tidal marsh sponsored by Schooner, Inc., an all day cruise on a research vessel, or a cooking class, the emphasis seems to fall on "doing" rather than "viewing." Participants may be expected to clean and maintain a sextant, drag for marine biota, or identify areas of land erosion, depending on the course or courses they select.

Here is a list of CAM recommendations, all of which focus, in one way or another, on the wise use of the Sound's resources.

Connecticut Cetacean Society

The Fifth Annual Connecticut Cetacean Society Teachers Convention Day Whale Program will be October 27, 1978, from 9:00 a.m. to 12:30 p.m., in the auditorium at the Children's Museum, 950 Trout Brook Drive, West Hartford. The topic will be "Connecticut's State Animal -- How to Teach About Whales." The program will consist of several short films, slide shows and lectures on different aspects of cetaceans. No advance reservations; \$1.00 per person registration fee; coffee and doughnuts.

The Cetacean Society also sponsors whale-sighting trips in Cape Cod Bay each fall and spring aboard the "Dolphin III." Contact Robbins Barstow, Coordinator, 529-5184.

Environmental Education Center, A.C.E.S.
800 Dixwell Ave., New Haven

A marine studies course will be offered for teachers this fall. Taught in conjunction with Schooner, Inc., the course will have four meetings: September 20 and 27, from 3:30-5:30 p.m., for class sessions, and September 23 and 30 for full-day on-the-water sessions. Topics include the geology and biology of Long Island Sound, coastal processes, coastal policy and legislation, tidal wetlands, laws and management, open water chemistry, estuarine ecology, etc. Contact the center at 562-9969.

Connecticut Audubon Society, Fairfield Chapter

On October 20 & 21, Friday evening and Saturday, an inland wetlands workshop will be held in Woodstock; advance registration is \$2.50.

On November 4, a wetlands workshop will be given at the Audubon Center in Fairfield; cost will be \$7.50.

For a more detailed list of field trips and workshops, contact David Emerson at 259-6305.

The Oceanic Society, Magee Ave., Stamford

Scheduled for fall are four-session courses including "History and Heritage of American Whaling," "Celestial Navigation," and "Sailing the Sound"; also seminars on cooking seafood, scuba diving, and cruising the Sound.

Workshops for teachers are given in conjunction with the University of Connecticut for college credit, emphasizing field work and marine sciences; and field trips for school groups and civic organizations are also offered.

Oceanic Society members will present talks to interested groups or organizations. Lecturers will travel. Fees vary.

On September 30, 1978, a traditional clambake will be held as one of a series of Special Marine Events. Contact the Society at 327-9786.

Project Oceanology, Avery Point, Groton

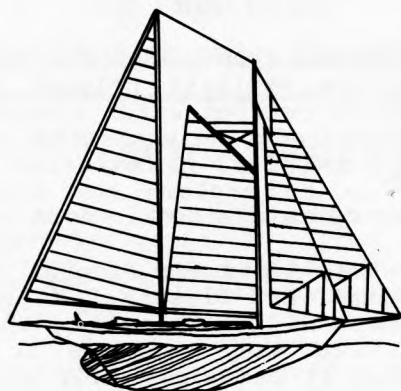
In conjunction with fourteen schools in the region, Project Oceanology offers day



trips to school groups and instructors aboard its research vessel. Emphasis is placed on field biology and students' participation in the day's activity.

During the fall, teachers' programs are offered in conjunction with Eastern Connecticut State College for graduate credit.

Coming: Project Oceanology's Source Book in Marine Environmental Studies, primarily aimed at teachers, offers methods for the teaching of marine ecology. Call 445-9007 for more information.



Schooner, Inc., S. Water St., New Haven

Day-long ecological field trips tailored to interested groups are offered aboard the fifty-foot schooner R/V Trade Wind. The schooner takes up to 18 people per cruise. Cost is \$12.50 each. Contact 865-1737.

Mystic Marine Life Aquarium, Mystic Court, Mystic

Classes on natural history are offered visiting school groups. For specific programs, call the aquarium.

The aquarium sponsors a lecture series on various marine topics, and college level programs are given in conjunction with Williams College. High school and college internships are offered, ranging from six weeks to a full year. Contact Pete Linquist at 536-9631.

An aquarium teacher travels to schools throughout Connecticut with live animals and a slide presentation. Charge: \$35.00 for first class, \$5.00 for each additional. Teacher will present up to four forty minute classes per day.

Society lists soil scientists

The Society of Soil Scientists of Southern New England has published its 1978 edition of "Qualification of Professional Soil Scientists by The Society of Soil Scientists of Southern New England." This pamphlet lists fifty Society members who meet specific qualification standards in the field of soil science.

According to Edward H. Sautter, Society president, "The purpose of the Society Qualification System is to foster and maintain professional competency among soil scientists and to protect the public interest in the area of wise use of soil and land resources. Standards for the system are based on formal education in soil science and on field, research, and teaching experience as they relate to soil classification, mapping and interpretation."

The list is a useful resource for Planning and Zoning Commissions, Inland Wetlands Commissions and Conservation Commissions as well as for engineers and developers.

Copies are available from the State's eight Soil and Water Conservation Districts as well as from:


Edward H. Sautter, President
Society of Soil Scientists of
Southern New England
P.O. Box 258
Storrs, CT 06268

Ellen Frye, Citizen Participation
Coordinator
Information and Education Unit
Department of Environmental Protection
State Office Building
Hartford, CT 06115

OFF SEASON CAMPING

Campers are reminded that there is off-season camping from October 1 through February 28 at four areas. The limited space is on a "first come, first served" basis. Stays are limited to three nights. The four areas in use for 1978-79 are:

HOUSATONIC MEADOWS STATE PARK - SHARON
KETTLETOWN STATE PARK - SOUTHTINGTON
COCKAPONSET STATE FOREST - HADDAM/CHESTER
PACHAUG STATE FOREST - VOLUNTOWN



208

WATER QUALITY MANAGEMENT

209 COURT ST., MIDDLETOWN, CT. 06457 347-3700

By Joseph M. Rinaldi, 208 Public Participation Assistant

Alternatives to Sewers

On Wednesday and Thursday, September 20th and 21st, the Connecticut 208 Program and the Connecticut Department of Environmental Protection will co-sponsor a two-day conference on alternatives to sewers for Connecticut towns. The conference will be held at the Holiday Inn in Meriden, starting at 9 a.m. each day, and is open to the public.

Increasingly, many towns are opposing the construction of sewers for a variety of reasons. Small communities often cannot afford the cost of building and operating their own sewage treatment plants, even though the State and Federal government will underwrite 90 percent of construction costs. Other towns wish to avoid the intense development that often occurs in sewer areas.

Recently, the Connecticut General Assembly passed enabling legislation which allows towns to choose alternatives to traditional, costly sewer systems. This legislation was the end result of a lengthy study conducted by the Department of Environmental Protection, which assessed the various options available to local communities. The Sewer Avoidance Program, as it is commonly called, is not an attempt to circumvent national standards for clean water. Instead it recognizes that there are a variety of ways in which the federal clean water goals can be reached and that communities have the right to choose the systems that they can afford.

Because many local officials have expressed a desire to learn more about how the Sewer Avoidance Program will affect their towns, and because a great deal of confusion exists in some communities over what will be required of them under the new program, the 208 Program and the DEP have arranged the conference to explain the roles of the State and local governments.

Federal, State, and local officials, consultants, and sanitarians will discuss the technical, legal, social, economic and

environmental aspects of Sewer Avoidance. An exhibitors' hall will be set up for both days, and manufacturers will display equipment such as waterless toilets, low flow showerheads, chemical waste systems, etc.

During the development of next year's 208 work plan the regional planning agencies throughout the State will be working with their member towns to begin to implement the sewer avoidance process for those towns which choose to participate. While the conference has been designed primarily to educate local officials prior to the commencement of the 208 effort, it should also interest citizens who feel that Sewer Avoidance might be the route for their towns to take.

In addition, the individual homeowner will find the exhibits helpful if he is interested in cutting water consumption at home, thereby reducing wastewater discharge to the septic system. Information will also be available to explain how home septic systems can be maintained in good condition.

The Sewer Avoidance Program is one of the most important pieces of environmental legislation ever to be passed by the General Assembly. In many respects it is controversial. It certainly will play an important role in future development in our state. In any event, citizens should understand the intent of the Program in order to make intelligent choices for their towns.

For more information, call the Connecticut 208 Program at 347-3700.

Join Audubon, Support Center

The Connecticut Audubon Society is conducting a special membership drive under which your \$15 per family dues will go wholly to support activities of the Hartford Environmental Services Center and the Environmental Caucus.

Members joining under this program will receive all the usual Connecticut Audubon Society publications, including Connecticut Audubon Bulletin and the "Connecticut Environmental News," free admission to Audubon wildlife sanctuaries, notice of all programs and excursions, and ten percent discount in the Nature Store in Fairfield.

To join, send \$15 check, made out to "Connecticut Audubon Society," with name, address, and phone number to Hartford Environmental Services Center, Suite 611, 60 Washington Street, Hartford, CT 06106.

For Your Information

By Ellen Frye,
Citizen Participation Coordinator



TV "Town Meetings"

Due to the favorable response to last year's closed-circuit TV "Town Meetings" for conservation and inland wetlands commissions, DEP will broadcast a similar series this fall. The three TV sessions will be held on September 21, 28 and October 5 from 7:30 to 9:30 p.m. at six locations throughout the state.

The series will provide a forum for conservation and inland wetlands commission members to exchange ideas with panel members. Panelists for the series will include conservation and inland wetlands commissioners and representatives from DEP's Information and Education and Water Resources units, and Natural Resources Center as well as Morgan Reese from the U.S. Army Corps of Engineers. Topics and speakers are:

September 21

Part I: Public participation in environmental protection and conservation -- the roles of conservation and inland wetlands commissions and other environmental groups.

Part II: The Connecticut Association of Conservation and Inland Wetland Commissions (CACIWC) -- its goals, programs and services and its future.

Part III: Environmental education in Connecticut.

Panelists: Tom ODell, President, CACIWC, and Chairman of Westbrook Conservation Commission; Wanda Rickerby, Director, Hartford Environmental Services Center; Steven O. Fish, Assistant Director of Information and Education, DEP, and Chairman of Andover Conservation Commission; Martina Delaney, DEP liaison to CACIWC; Ellen Frye, Citizen Participation Coordinator, DEP.

September 28

Part I: Connecticut Water Resources Regulations

Part II: Upcoming changes in the 404 Program -- Role of U.S. Army Corps, U.S. EPA, State of Connecticut, and the towns

Part III: Inland wetlands concerns in wetlands regulations -- set backs, proximity to septic systems, impact evaluation, wildlife evaluation

Part IV: Realities and legalities of local wetlands regulation -- one town's approach to wetlands regulation

Panelists: Benjamin Warner, Director, DEP Water Resources Unit; Paul Burgess, Chief, Inland Wetlands Program of DEP Water Resources Unit; Attorney Robert Fried, Chairman, Rocky Hill Conservation and Inland Wetlands Commission; Morgan Rees, Chief of Regulatory Branch, U.S. Army Corps of Engineers.

October 5

Part I: Conservation easements - experiences of the Town of Mansfield Conservation Commission

Part II: The latest on land trusts -organization, tax exempt status, techniques

Part III: Connecticut's natural areas and ecoregions -- identification from state and local perspectives

Part IV: "A Conservation Commission in Connecticut" -- its struggles, successes, inland wetlands role, and recycling program

Panelists: Byron Janes, Chairman, Mansfield Conservation Commission; Jack Gunther, President, New Canaan Land Trust, Inc. and Chairman of New Canaan Conservation Commission; Les Mehrhoff, DEP Natural Resources Center Biologist; Rita Barberi, Southington Conservation Commission

A feature of the closed-circuit system is the opportunity for participants at all six sites to question the panelists via two-way audio hook-up.

The series will originate at The University of Connecticut's broadcasting studio in Storrs. It will be broadcast to the following University branches: 1) Hartford Branch: Asylum Avenue at Trout Brook Drive, West Hartford; 2) Southeastern Branch: Shennecosett & Eastern Point Road, Avery Point, Groton; 3) Stamford Branch: Scofield Road, Stamford; 4) Storrs: Bishop Center, Storrs; 5) Torrington Branch: University Drive, Torrington; 6) Waterbury Branch: 32 Hillside Avenue, Waterbury.



In cooperation with the Nature Conservancy in Middletown, Jack Gunther is setting up a central service bureau to provide Connecticut's local land trusts with information and advice on issues of interest. Direct correspondence to: Land Trust Service Bureau, c/o New Canaan Land Conservation Trust, 72 Park Street, New Canaan, CT 06840.

IRS 'Support Tests' for Land Trusts

By Jack Gunther, Esq.,
Local Land Trust Service

The Internal Revenue Service has indicated an intention to reclassify the Stamford Land Conservation Trust, Inc., as a "private foundation" and deny it status as a "publicly supported" organization on grounds that it does not derive sufficient support from the general public. The private foundation classification will impose serious limitations on the deductibility of contributions to the Trust (limiting deductions to 20 percent without any carry-over). This change in status is being contested by Cummings and Lockwood, attorneys for the Trust.

Under the IRS Regulations, an organization will be treated as "publicly supported" if it "normally" receives a "substantial" part of its support from governmental units, direct or indirect contributions from the general public, or both, and meets the other requirements of the Facts and Circumstances Test. (Basically the organization must be so organized and operated "as to attract new and additional public or governmental support on a continuous basis.")

In determining whether an organization normally receives a substantial amount of public support, it must meet a ten percent support test which is applied to the four taxable years immediately preceding the current taxable year. Individual contributions are counted as support from the general public only to the extent that the total amount of the contributions by any individual during the four year period does not exceed two percent of the organization's total support during the period.

To qualify as publicly supported, the aggregate of all contributions, after the larger contributions have been reduced to the two percent limit, must equal or exceed ten percent of the total amount of all the contributions received by the organization in the four year period.

The following examples illustrate the application:

Example 1: The contributions are as follows:

A.	Gift of land valued at	\$90,000
B.	Gift of land valued at	80,000
C.	Gift of land valued at	70,000
D.	Cash contributions of \$40 each from 200 individuals	<u>8,000</u>
Total support		248,000
Ten percent equals		24,800
Two percent equals		4,960

Credits against the ten percent minimum of \$24,800:

Gift A at the 2% limit	4,960
Gift B at the 2% limit	4,960
Gift C at the 2% limit	4,960
Cash contributions	<u>8,000</u>
Total credits	\$22,880

This land trust fails to meet the ten percent support test.

Example 2: The contributions are as follows:

A.	Gift of land valued at	\$150,000
B.	Gift of land valued at	70,000
C.	Gift of land valued at	65,000
D.	Gift of land valued at	60,000
E.	Cash contributions of \$40 each from 200 individuals	<u>8,000</u>
Total support		353,000
Ten percent equals		35,300
Two percent equals		7,060

Credits against the ten percent minimum of \$35,300:

Gift A	7,060
Gift B	7,060
Gift C	7,060
Gift D	7,060
Cash	<u>8,000</u>
Total credits	\$36,240

This land trust meets the ten percent support test. However, it would fail to meet the ten percent support test if its cash contributions were only \$4,000 instead of \$8,000.

Ordinarily when, in the four-year period, a land trust receives at least five large gifts which are credited at the two percent limit, the land trust will qualify under the ten percent support test. However, the examples illustrate possible problems in meeting the test. In problem



cases expert advice is needed because the Regulations provide for special treatment for new land trusts, unusual or unexpected large contributions, and for treating several contributors as an individual due to specified relationships between them.

In the future it may become increasingly difficult for land trusts to meet the requirements of a mechanical test which places a premium on the frequency of large gifts, especially as natural lands become scarce in many highly developed communities.

It may be time for the 69 local land trusts in Connecticut to appeal to the Internal Revenue Service to modify its Regulations to bring them more into line with today's demonstrated practicalities, such as the growing tendency of Planning and Zoning Commissions to convey to local land trusts the open spaces donated by developers. The land trust is recognized as the best qualified to manage the land, and it performs a public service in assuming this responsibility, representing cooperation with and a form of support by a governmental agency.

Wetlands Workshops

The highly successful DEP/Connecticut Audubon Society inland wetlands workshops offered last year will return this season in two locations: Saturday, November 4, at the Fairfield Audubon Center, and Saturday, April 28, at Westmoor Park in West Hartford. In addition to these all-day workshops, Annhurst College in Woodstock, in cooperation with Connecticut Audubon, will offer two sets of Friday evening/all day Saturday wetlands workshops on October 20 and 21, at Annhurst College, and on November 10 and 11 at the Windham-Tolland 4-H Camp in Pomfret.

All of these workshops are designed for members of local wetlands agencies and conservation commissions and engineers, developers and other individuals interested in identifying and assessing the functions and values of inland wetlands ecosystems.

Workshops will include slide and lecture presentations on inland wetlands functions and values; identification of wetlands systems; available resource materials; general administrative procedures, and techniques of project evaluation. A special aspect of these workshops will be the opportunity for "hands-on" experience. Participants will conduct their own site evaluations during the field study.

Registration fee for the DEP/Connecticut Audubon Workshops is \$7.50 per person. For details contact the Connecticut Audubon

Society, 2325 Burr Street, Fairfield, Ct. 06430, phone 259-6305. For information on the Annhurst College program, contact Karen Hoffman at Annhurst College, RR 2, Woodstock, Ct. 06281 (Phone 928-7773, ext. 39).

CACIWC

First Annual Meeting

The Connecticut Association of Conservation and Inland Wetlands Commissions (CACIWC) will hold its first annual meeting October 19 at the Clam Box in Wethersfield.

Dinner speaker will be Sterling Dow III, Executive Director of the Maine Association of Conservation Commissions. Over the past few years, MACC has represented local conservation interests in the state's legislature, sponsored training programs, and kept Maine's commissions informed and up to date.

Other speakers at the annual meeting will be Robert Fried, Hartford attorney and chairman of the Rocky Hill Open Space and Conservation Commission (which is also the town's Inland Wetlands Commission), and Art Carlson, president of the East Lyme Land Trust and former chairperson of that town's Conservation Commission.

Fried will discuss Rocky Hill's approach to inland wetlands regulation, with a "before and after" slide show. Carlson will talk about a nine-month effort, by East Lyme's Conservation Commission, to develop criteria for the protection of critical land areas.

For further information, contact Ellen Frye or Martina Delaney at 566-3489 or toll free 1-800-842-2220.



1978 Annual New England Regional Environmental Education Conference November 3-5

Sargent Camp Environmental Studies
Center, Peterborough, N.H.

The conference is co-sponsored by the Association of Interpretive Naturalists and the American Nature Study Society. It is designed for environmental education professionals and others working with the environment. Cost: \$33.00 for 3 days, lodging and meals included.

For information, contact Environmental Education Conference, c/o Ralph Tutts, Hampshire College, Amherst, MA 01002.

1978 Legislation

The review of 1978 Public Acts begun in the July-August issue of the Citizens' Bulletin continues this month with summaries of new Conservation and Preservation, Solid Waste Management, Water Pollution, and miscellaneous legislation. Material is based on a legislative summary prepared by Laura Inouye of DEP's Planning and Coordination Section.

Conservation and Preservation

Public Act 78-270 An Act Increasing the Fees for Non-Resident Hunting and Fishing Licenses. Non-resident license fees will be increased as follows:

	<u>Old</u>	<u>New</u>
Fishing	\$13.35	\$26.35
Hunting	8.35	16.35
Fishing & Hunting	17.35	24.35
3 day Fishing & Hunting	3.85	7.35

Effective October 1, 1978.

P.A. 78-46 An Act Increasing the Qualification Requirements for Resident Hunting and Fishing Licenses. (See April Bulletin, p.8.)

P.A. 78-135 An Act Concerning Penalties for the Illegal Taking of Deer.

This Act allows the courts to impose stiffer penalties for taking deer without a permit. Penalties will be fines between \$200 and \$500 and/or imprisonment of from 30 days to 6 months for the first offense; penalties for each subsequent offense will be a \$200 to \$1,000 fine and/or up to a year in prison.

Effective October 1, 1978.

P.A. 78-97 An Act Concerning Wild Birds. (See March Bulletin, p. 11.)

P.A. 78-39 An Act Concerning the Purchase of Game Birds. (See March Bulletin, p. 11.)

Solid Waste Management

P.A. 78-319 An Act Concerning Litter Control and Recycling--"Litter Bill."

This Act expands the responsibilities of the DEP regarding litter control to include:

1. coordination of state and local litter control and recycling programs

2. development of public education and advertisement programs regarding litter control and recycling
3. research in the areas of litter control and recycling
4. adoption of regulations establishing: standards for design and distribution of litter receptacles on state-owned lands; litter bags for cars and boats; litter receptacles and pickup at privately-owned public areas
5. establishment of youth litter corps
6. conducting or contracting for surveys measuring the amount and content of litter on public highways, recreational areas and urban areas
7. making grants for youth litter corps programs and recycling centers.

These functions will be financed by a Litter Control and Recycling Fund, to be administered by the DEP. The Fund will consist of assessments collected annually by the DEP from manufacturers, wholesalers and distributors, grocery stores, take-out food establishments, retail liquor stores, restaurants, hotels, motels, auto-related businesses, drug stores and sundry stores whose products contribute to the litter stream.

Increased penalties for violating litter laws are also included. Second offenders will be required to pick up litter from 4 to 12 hours. A third or subsequent offense will be punishable by 8 to 35 hours of litter pick-up.

Also, detachable tops on metal beverage containers are banned. This Act becomes effective January 1, 1980; the Litter Control and Recycling Fund will be transferred to the General Fund July 1, 1983.

P.A. 78-16 An Act to Provide Economic Incentives for Consumers to Return Used Beverage Containers and to Encourage the Recycling and Reuse Thereof--"Bottle Bill." (See April issue of Bulletin, p. 7.)

P.A. 78-67 An Act Concerning Solid Waste Management.

This Act prohibits the state from limiting local rights to regulate, through zoning, land usage for solid waste disposal. It also prohibits the Commissioner of DEP from issuing an order to close a solid waste facility that does not comply with standards until a "reasonable alternative" has been provided.

Effective upon passage (April 27, 1978).

Water Pollution

Special Act 78-50 An Act Concerning An Appropriation to the Department of Environmental Protection for a Study of Contamination in the Housatonic River and its Impoundments.

The DEP was appropriated \$200,000 to study alternatives for the elimination of sources of PCB contamination of the Housatonic River and Lakes Zoar, Lillinonah and Housatonic. The study shall include examination of sediment transport and bottom removal. The Commissioner is required to recommend and initiate remedial action.

Effective May 25, 1978.

P.A. 78-45 An Act Concerning Contracts Between Municipalities and Engineering Consultants. (See April Bulletin, p. 8.)

P.A. 78-154 An Act Concerning a Voluntary Sewer Avoidance Program. (See April Bulletin, p. 7.)

P.A. 78-234 An Act Concerning Repair of Dams by the Commissioner of Environmental Protection. (See March Bulletin, p. 11.)

P.A. 78-152 An Act Concerning Coastal Area Management. (See April Bulletin, p. 8.)

P.A. 78-102 An Act Concerning Permits for the Erection of Structures and the Placement of Fill.

This Act is a combination of two bills; one on the erection of structures and the other on the placement of fill. (See March Bulletin, p. 12.)

P.A. 78-96 An Act Concerning Civil Penalties for Tidal Wetlands Violations. (See March Bulletin, p. 12.)

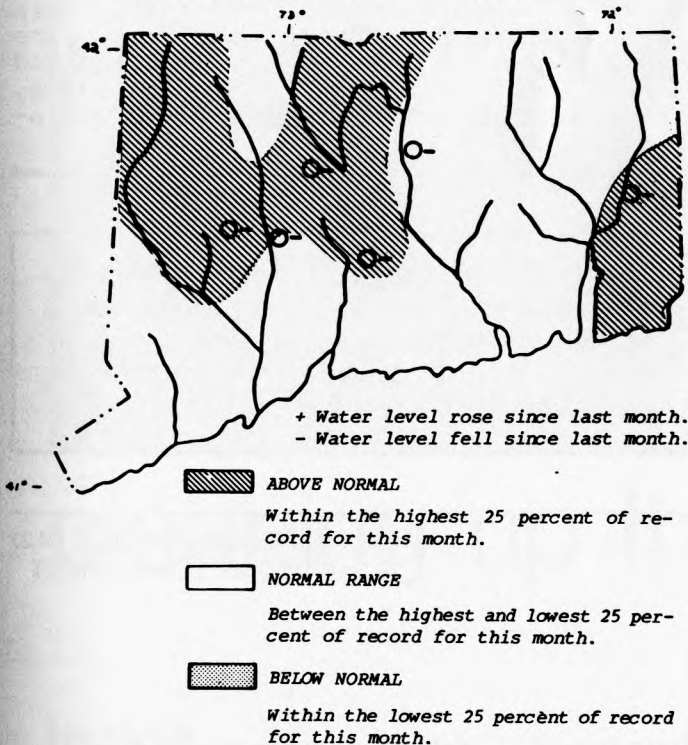
Miscellaneous

P.A. 78-262 An Act Establishing A State Energy Policy.

General Assembly findings state that Connecticut is at a critical disadvantage because of a heavy dependence upon non-renewable energy resources and that the economy of the state has suffered from increased oil prices. Based on these findings, a State energy policy has been developed, declaring that energy resources should be conserved and used in the most efficient manner feasible and that use of renewable energy resources should be promoted. It also calls for state plans, functions and programs to give due consideration to energy in order to provide maximum benefits to the State as a whole.

Effective July 1, 1978.

WATER RESOURCES FOR JUNE, 1978.



Map based on 6 long-term observation wells (with at least 20 years of record) and 5 others. Elsewhere conditions are generalized.

Average monthly streamflow for June was 115 percent of median and within the normal range. Month end flows averaged 62 percent of median. Cumulative runoff since October 1, 1977 is now 150 percent of median.

If the month of July is normal, runoff is expected to be within the normal range. If no rain should fall, runoff will be below the normal range.

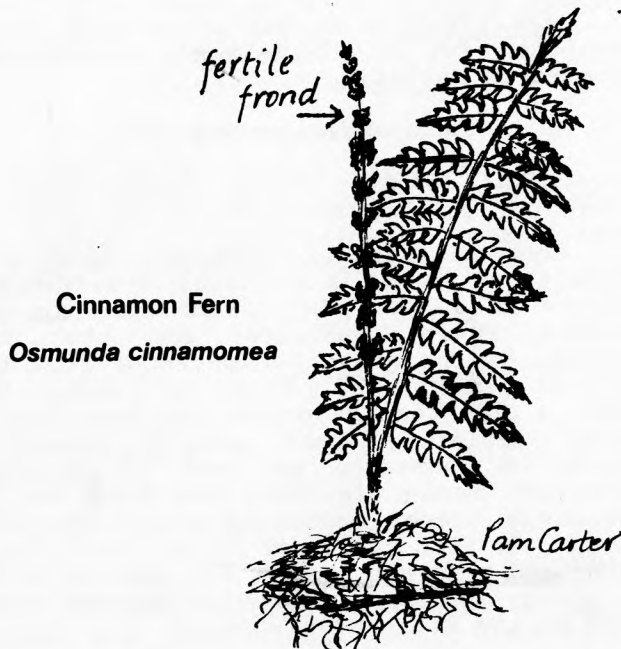
Reservoirs of the four principal municipal systems contained 99 percent of usable capacity at month's end, one percent less than last month. Usable contents were 5 percent above average for end of June.

Groundwater levels declined seasonally throughout the State in June although almost all were above average and above the levels of last year at this time. The levels in the key observation wells were generally in the normal range in southern and northeastern Connecticut and in the high range in northwestern and southeastern Connecticut. If rainfall during July is normal, water levels will continue to decline and be mostly in the normal range.

Information taken from "Water Resources Conditions in Connecticut," prepared by the U.S. Geological Survey in cooperation with the Connecticut Department of Environmental Protection.

Trailside Botanizing

by G. Winston Carter



Cinnamon Fern

Osmunda cinnamomea

The Cinnamon Fern is one of our most common ferns. Its woolly fiddleheads are one of the earliest to make their appearance in the spring. (The term "fiddlehead" is not confined to this type of fern but is a

general term applied to most ferns when they are developing early in the year.)

The Cinnamon Fern grows in wet areas. In some places the growth is so extensive that it gives an almost jungle-like appearance. It is one of our largest ferns and is sometimes confused with another fern that may be growing nearby which is called the Interrupted Fern. The Cinnamon Fern prefers wetter sites. Where these two ferns are growing side by side there may be a band of Cinnamon Fern and then the Interrupted; the first in the wet site and the second in the dry.

Sometimes, however, these ferns grow mingled together, which makes identification more difficult. Both have a woolly stem, but usually it is much more conspicuous on the Cinnamon Fern. In fact, the Ruby-throated Humming Bird runs its bill up and down the lower part of the stem and uses the cinnamon brown wool that it collects for nesting materials.

Fairly early in the spring the Cinnamon Fern produces a separate stalk which holds the many spore-producing structures. These are green at first, and because so many ferns of this type grow side by side, these structures are very conspicuous. Later on in the year, these spore-producing structures turn brown and droop and die down.

The Interrupted Fern produces spore cases in the middle section of some of its leaves, or fronds, but only some of the fronds have spore cases. This causes confusion in distinguishing between this fern and the Cinnamon. If no spore cases are present, look on the back of the frond and examine the base of each leaflet, or pinna. If tufts of brown are present, it is a Cinnamon Fern.

DEP citizens' bulletin

State of Connecticut
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06115

Commissioner: Stanley J. Pac
Director Info & Ed: Greg Sharp
Editor: Margot Callahan
Layout: Rosemary Gutbrod
Typist: Linda Mrowka
Phone: 566-5524

"The Connecticut Department of Environmental Protection is an equal opportunity agency that provides services, facilities and employment opportunities without regard to race, color, religion, age, sex, physical handicap, national origin, ancestry, marital status or political beliefs."

SECOND CLASS POSTAGE PAID
AT HARTFORD, CONNECTICUT